St. Xavier's College – Autonomous Mumbai

F.Y.B.A

Syllabus
For 2nd Semester Course in Statistics
(June 2014 onwards)

Contents:
Theory Syllabus for Courses:

A.STA.2.01 – Descriptive Statistics (B).

Practical Course Syllabus for: A.STA.2. PR

F.Y.B.A
(STATISTICS)

SEMESTER 2   **COURSE : A.STA.2.01**

DESCRIPTIVE STATISTICS   (B)   **[45 LECTURES]**

LEARNING OBJECTIVE : To orient students on techniques of data analysis.

Unit 1 : Absolute and Relative Measures of Dispersion.   (15 L)

Range, Interquartile Range, Quartile Deviation, Mean Absolute Deviation, Standard Deviation (Variance) and their relative measures. Combined variance. Raw and Central moments up to fourth order and the relationship between them (without proof). Measures of Skewness and Kurtosis. Box-Whisker Plot.

Unit-2 : Analysis of Bivariate Data.   (15 L)

Scatter diagram. Product Moment correlation coefficient and its properties. Rank correlation-Spearman's measure. Concept of linear regression. Principle of least squares. Fitting of straight line by method of least squares. Relation between regression coefficients and correlation coefficient. Coefficient of determination. Fitting of curves reducible to linear form by transformation. Fitting of quadratic curve using least squares.

Unit-3 : TIME SERIES   (15 L)

Definition of Time series. Its components. Models of Time Series.
Estimation of trend by i) Freehand curve method ii) Method of semi averages iii) Method of moving averages iv)   Method of least squares v) Exponential smoothing method
Estimation of seasonal component by i) Method of simple averages
 ii) Ratio to moving average method iii) Ratio to trend method.

List of Practicals:

1   Measures of Dispersion.
2   Skewness and Kurtosis.
3   Correlation Analysis
4   Regression Analysis.
5   Curve fitting by the Method of Least Squares.

6   Time-Series

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3. Shah R.J.:Descriptive Statistics, Seth Puplications. Eighth edition.
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